USSR

UDC 624.073.04:534.12

GOLOSKOKOV, Ye. G., and OL'SHANSKIY, V. P. (Kharkov)

"Concerning the Calculation of Three-Layer Plates for Elastic Impact"

Moscow, Stroitel'naya Mekhanika i Raschet Sooruzheniy, No 1, 1971, pp 53-56

Abstract: In the article is proposed a procedural variation for approximately taking into account the compressibility of the plate. The sag of the sheathing is represented by the sum of two terms. The first term is computed on the basis of equations of motion which do not take into account the compression of the plate with respect to thickness during bending, the second term is computed from the solution of the static problem. 1 figure, 1 table, 5 bibliographic entries.

1/1

USSR   UDC: 681.3

GOLOSKOKOVA, T. M., KHOROSHEVSKIY, G. V.

"Algorithms of the Operation of Homogeneous Universal Computer Systems in the Simplest Situations"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 39, Novosibirsk. 1970, pp 15-28 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V792)

Translation: The authors discuss two algorithms of distribution of a finite set of simple problems among the elements of a homogeneous universal computer system. There are no great difficulties in realization of the algorithms, in contrast to algorithms of mathematical programming. The results of statistical processing of experiments on modeling the algorithms are presented. Programs of the algorithms written in ALGOL language are given in an appendix. V. Mikheyev.

1/1

USSR   UDC 681.3

KHOROSHEVSKIY, V. G., KHOROSHEVSKAYA, E. G., GOLOSKOKOVA, T. M.

"Calculation of Technical and Economic Indicators for High Productivity Homogeneous Universal Computer Systems"

Translation: Formulas are concluded for the technical and economic indicators of homogeneous universal computer systems (UCS) on the assumption that the number of elementary machines (EM), number of repair devices (RD), intensity of failures in EM, repair and switching of machines, and initial status of the system are arbitrary. The formulas allow manual production of numerical values which correspond with accuracy sufficient for practice to the results of more precise and cumbersome calculations (both for stable and for transient modes). The following indicators are studied: mathematical expectation of the number of properly operating EM, switched EM, busy RD, cost of operation, cost functions characterizing losses due to down time of machines and RD and expected income. The results are illustrated with examples of homogeneous UCS.
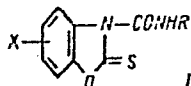
1/1   - 37 -

USSR

POZNANSKAYA, N. L., GOLOSKOVA, A. V., IVANOVA, S. N., SHVETSOV-SHILOVSKIY,
N. I., and MEL'NIKOV, N. N.

"Method of Producing N-Carbamoylbenzoxazolin-2-thiones"

Translation: Compounds with the general formula (I) (X=lower alkyl, H, halide,
R=lower alkyl, alkenyl, aryl, substituted aryl) are produced by the reaction
of the corresponding benzoxazolinthione with RNCO in the presence of a base in
an organic solvent. Four drops of Et_3N and 10.4 g of MeNCO are added to a
suspension of 18.6g 5-Cl-benzoxazolinthione in 150 ml dicholoroethane, stirred
for 20 hours at 20°, the solvent is distilled, producing 12 g I (X=5-Cl, R=Me)
(Ia), yield 50%, mp 244-6° (Isooctane). I can be similarly produced (given
are X, R,

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USSR

POZNANSKAYA, N. L., et al., USSR Author's Certificate No 283987, filed 12/04/69, published 5/04/71. (Translated from Referativnyy Zhurnal Khimiya, No 5, Moscow, 1972, Abstract No 5N668P by L. V. Razbadovskaya)

yield in %, mp in °C): H, Me (IB), 50, 97-8; 6-Cl, Me, 78.8, 216-8; 6-Cl, m-Cl C_6H_4, 84, 168-9; 5Cl, Ph (Ic), 78, 245-6; H, allyl, 60,5, 82-3; 5-Me, Me, 30, 135-6; 5 Me, m-ClC_6H_4, 74, 164. Under similar conditions but with boiling of the reaction mixture, the product is I (given are X, R, yield in %, mp in °C): H, m-ClC_6H_4, 68, 139-40; 5-Cl, m-ClC_6H_4, 70, 260-2. I has biological activity. Ia and Ic in concentrations of 0.005% are superior to phygone in their effects on Botrytis cinerea, Fusarium Moniliforme, Venturia inaequalis, Aspergillus niger. Ia and Ib are effective seed disinfectants.

2/2

- 70 -

USSR

UDC 619:615.92:636.22/.28

GOLOSNITSKIY, A. K. Professor, SHCHERBAN', N. F., Doctor of Veterinary Sciences, North Caucasus Zonal Scientific Research Veterinary Institute, SKARGIN, V. I., Chief Veterinary Physician, and FILIPOVICH, N. P., Director of the Veterinary Laboratory, Chertkovskiy Rayon, Rostovskaya Oblast

"On the Toxicology of Chlorophos"

Moscow, Veterinariya, No 4, 1973, p 102

Abstract: Studies were conducted on 26 bulls in an artificial insemination program following intoxication with chlorophos. On that day the barn had first been disinfected with 3% sodium hydroxide, and in the afternoon the bulls were treated with 3% chlorophos solution. Due to falling temperature the barn was closed and soon became filled with chlorophos vapors. The bulls developed the following symptoms: decreased heart rate, salivation, skeletal muscle tremor, incoordination, depressed body temperature, respiratory difficulties, convulsions, and refused feed; 10 of the bulls died. Autopsies disclosed cyanosis of the mucous membranes, congestion of liver, spleen, and especially of the lungs; gall bladders were enlarged in most of the animals, and epicardial and endocardial hemorrhages were present. On diagnosis treatment with atropine sulfate and intravenous glucose and caffeine was instituted. Blood levels of

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USSR

GOLOSNITSKIY, A. K., et al., Veterinariya, No 4, 1973, p 102

cholinesterase were decreased by 86%, and gradually rose to normal on treatment. The intoxication was apparently due to high body concentrations of chlorophos as a result of inhalation of the vapors.

2/2

Information Theory

USSR

UDC 533.9.08

ZHDANOV, A.I., NESTERENKO, P.T., MAKAROV, A.F., GOLOSNYAK, V.L.

"Automation Of Analysis Of Experimental Data In Investigations Of Plasma Physics"

Translation: A system is described which is intended for automation of the analysis of the signals of diagnostic data units [датчик] recorded on a photographic film in experiments of plasma physics. This system, constructed on the base of the "Dnepr" controller, includes a specially developed device for introduction into the machine of graphic information. 3 ill. 3 ref. Summary.

1/1

Polymers and Polymerization

USSR

UDC 678.742.2-137.46.22:66.018.86

TERTERYAN, R. A., LESHCHENKO, S. S., LIVSHITS, S. D., GOLOSOV, A. P.,
ITSIKSON, L. B., MONASTYRSKIY, V. N., KARPOV, V. L., SOBOLEVA, N. S.,
MAL'TSEVA, A. P., and ISKHAKOV, L. I.

"Radiation Stability of Ethylene and Styrene Copolymers"

Abstract: A study was made of the continuous statistical copolymerization of
ethylene monomers (E) with styrene (S) under conditions similar to those under
which low density polyethylene is produced and also of the behavior of E + S
polymers in an ionizing radiation field. The results of copolymerization
studied -- grams of copolymer/hr concentration of S in the polymer, density,
and others -- are given as a function of styrene concentration and pressure
at 200°C. An increase in the concentration of S in the reaction mixture
leads to a decrease in the copolymer yield, in its characteristic viscosity,
in its melting temperature, and its crystallinity, and to an increase in the
density. The presence of S monomers in the polyethylene chains and the
chemical bonds between them and the methylene groups significantly increases
the resistance of the material to α-radiation damage. The gases evolved
during the radiation of various types of polymers were determined.
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90892f Continuous high-pressure copolymerization of ethylene with isobutylene. Golosov, A. P.; Tertervan, R. A.; Larina, M. V.; Monastyrskii, V. N. (USSR). *Plast. Massy* 1970, (1), 5-7 (Russ). The copolymn. of ethylene (I) with isobutylene (II) was studied in a continuous-flow tubular reactor at 200-20° and 400-2000 kg/cm². High-mol.-wt. products were obtained when the II content was ⪬ 15 mole %; a further increase in II content gave low-mol.-wt. copolymers, accompanied by a sudden decline in m.p. (from 100 to 0°). The tensile strength of I-II copolymers was inversely proportional to II content, declining to 0 when II content was 40 mole %. A radical copolymn. mechanism was proposed. The copolymn. involved chain transfer (via II mols.) and the termination, thus leading to the formation of low-mol.-wt. copolymers. The mol. wt. of the copolymers (500-15,500) and the copolymn. rate were proportional to the pressure. Increased pressure had a favorable effect on the d., tensile strength, elongation at break, and m.p. of the I-II copolymers.   CKJR

USSR   UDC 619:614.485:663.632.8

GOLOSOV, I. M., Veterinary Institute, Leningrad, KAZAKYAVICHUS, P. A., and
ZHOSTAUTAS, A. S., Lithuanian Republic Veterinary Laboratory

"Disinfection of Water With Ultraviolet Radiation"

Moscow, Veterinariya, No 10, 1971, pp 26-28

Abstract: Livestock farms in Lithuania obtain their water mainly from open
sources, including small ponds, lakes, and streams, which are heavily polluted
with the decomposition products of organic matter (ammonia, nitrites, chlorides,
hydrogen sulfide). Bacteriological analysis showed that in those sources
where the coli count was low, bacterial contamination was high. Ultraviolet
irradiation of pond water (with an OV-1P unit and bactericidal lamps) increased
the coli count in the winter to 105-143 while the total number of bacteria
ranged from 110 to 150 in 1 ml. In the summer the coli count rose to 177-130
while bacterial contamination decreased to 110-110 microbial cells in 1 ml.
The coli count in lake water did not exceed 4 throughout the year, but after
ultraviolet irradiation it rose to 111-300, i.e., 25 to 75 times. The effec-
tiveness of the treatment is enhanced by first filtering the water through
fravel to remove mechanical impurities, thereby permitting the ultraviolet
rays to act directly on the microbial cells.

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1/2   026   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--THE EFFECT OF COLD TREATMENT ON THE AXIAL RIGIDITY OF RADIAL THRUST
   BALL BEARINGS -U-
AUTHOR-(03)-BARANOV, I.A., GOLOSOV, L.V., MELGUNOV, N.P.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY.
   PRIBOROSTROYENIYE, NO 2, 1970, PP 119-121
DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--BALL BEARING, CRYOGENIC EFFECT, COLD EXPOSURE, METAL HEAT
   TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1678   STEP NO--UR/0146/70/000/002/0119/0121

CIRC ACCESSION NO--AT0123502
                          UNCLASSIFIED

2/2   026
CIRC ACCESSION NO--AT0123502   UNCLASSIFIED   PROCESSING DATE--13NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT A CHANGE TAKES
PLACE IN THE AXIAL RIGIDITY OF RADIAL THRUST BALL BEARINGS AS THE RESULT
OF COLD TREATMENT.   FACILITY: MOSCOW AVIATION TECHNOLOGICAL
INSTITUTE.

UNCLASSIFIED

1/2 014
UNCLASSIFIED
TITLE--INCOMPLETE ANTIBODIES IN TOXOPLASMOSIS OF ANIMALS -U-
PROCESSING DATE--04DEC70

AUTHOR-(02)-LUKYANOVA, K.P., GOLOSOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6, PP 58-61

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXOPLASMOSIS, ANTIBODY, COMPLEMENT FIXATION TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0413

STEP NO--UR/0016/70/000/006/0058/0061

CIRC ACCESSION NO--AP0126166

UNCLASSIFIED

CIRC ACCESSION NO--AP0126166

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INCOMPLETE ANTIBODIES WERE
REVEALED IN ANIMALS INFECTED WITH TOXOPLASMOSIS (SPONTANEOUSLY AND
EXPERIMENTALLY); REACTION OF DEPRESSION OF COMPLEMENT FIXATION WAS USED
FOR THIS PURPOSE. IT WAS SHOWN THAT INCOMPLETE ANTIBODIES COULD BE
REVEALED IN 4 TO 15 DAYS AFTER THE INFECTION; AS TO COMPLEMENT FIXATING
ANTIBODIES, THEY COULD BE FOUND ONLY 6 TO 30 DAYS LATER. WITH
SUBSIDENCE OF THE PROCESS THE COMPLEMENT FIXATING ANTIBODIES DISAPPEAR
FROM THE BLOOD OF SICK ANIMALS, AND AGAIN, FOR SOME TIME, INCOMPLETE
ANTIBOIDES REAPPEAR. THE RESULTS OBTAINED ARE DISCUSSED FROM THE POINT
OF VIEW OF DIAGNOSTIC SIGNIFICANCE OF DETECTION OF INCOMPLETE
ANTIBODIES.   FACILITY: KAZAKHSKIY NAUCHNO-ISSLEDOVATEL'SKIY
INSTITUT OKHRANY MATERINSTVA I DETSTVA I INSTITUT ZOOLOGII AN KAZAKHSKOY
SSR.

UNCLASSIFIED

USSR

GOLOSOV, Yu. I.

"Unstable Gaussian Processes Including the Process of Autoregression"

Teoriya Veroyatnostey i Mat. Stat. Mezhved. Nauch. sb. [Theory of Pro-
babilities and Mathematical Statistics, Interdepartmental Scientific
Collection], 1972, No 7, pp 33-50 (Translated from Referativnyy Zhurnal,
Kibernetika, No 1, 1973, Abstract No 1 V149).

Translation: Linear statistical problems are studied, related to Gaussian
random process $\xi(t)$, satisfying the differential equations $Q_m(d/dt; t)\zeta(t) =$
$= \xi(t)$. $P_n(d/dt; t)\zeta(t) = \beta(t)$. $\beta(t)$ is a white noise process,

$$P_n(x, t) = \sum_0^n a_k(t) x^k, \quad Q_m(x, t) = \sum_0^n b_k(t) x^k, \quad m < n.$$

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USSR

UDC: 519.2

GOLOSOV, Yu. I.

"On One Form of Stochastic Dependence for Gaussian Processes"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory
and Mathematical Statistics. Interdepartmental Scientific Collection),
1971, vyp. 5, pp 34-42 (from RZh-Kibernetika, No 1, Jan 72, Abstract
No 1V196)

Translation: The paper deals with Gaussian processes which are the sim-
plest from the standpoint of the interpolation problem, and also with the
statistical problems relating to these processes. Author's abstract.

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USSR   UDC 519.281

GOLOSOV, Yu. I.

"Estimating the Regression Function on the Basis of Observations with Noise of a Special Type"

Identifikatsiya [Identification -- Collection of Works], Moscow, Nauka Press, 1970, pp 21-22 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V139 by Yu. Gromak)

Translation: Suppose observations are performed over a random process $\zeta(t)=\xi(t)$ +m(t, $\bar{\alpha}$), 0<t<T, where $\bar{\alpha} = (\alpha_1,\ldots, \alpha_k)$, m(t, $\bar{\alpha}$) is a function known with accuracy to $\bar{\alpha}$, $\xi(t)$ satisfies the differential equation

$$\sum_{k=0}^{n} a_k(t)\, \frac{d^k \xi(t)}{dt^k} = b(t),$$

$a_k(t)$ are fixed functions, b(t) is a Gaussian white noise process, $(\xi(0),\ldots, \xi^{n-1}(0))$ are the initial conditions, forming a Gaussian vector, independent of b(t). The method of maximum likelihood is used to find an estimate for $\bar{\alpha}$. The same problem is solved in another case, when $\xi(t)$ is the solution of a certain system of differential equations.

1/1   - 21 -

1/2   030
PROCESSING DATE--20NOV70
TITLE--LUBRICANTS FOR GLASS FIBERS FOR REINFORCEMENT OF LAMINATED PLASTICS
-U-
AUTHOR-(02)-GOLOSOVA, L.V., ZATSEPIN, K.S.

COUNTRY OF INFO--USSR

SOURCE--USSR. 265,369
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GLASS FIBER, ADHESION, LAMINATED PLASTIC, EPOXY RESIN,
POLYVINYL ALCOHOL, WATERPROOFING, PATENT, GLASS LUBRICANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1436   STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128835
                    UNCLASSIFIED

CIRC ACCESSION NO--AA0128835
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LUBRICANTS FOR GLASS FIBERS THAT
  INCREASE THEIR ADHESION TO VARIOUS BINDERS DURING PREPN. OF LAMINATED
  PLASTICS HAVE THE FOLLOWING COMPN.: H SUB2 O, SOL. EPOXY RESIN "89"
  10-12, POLY(VINYL ALC.) (VISCOSITY 50-60 CP) 2.0-2.5, AN EMULSIFIER
  (E.G. TRIAMON) 1.4-1.6, WATERPROOFING COMPN. (E.G. NA
  ALUMINOMETHYLSILICONATE OF AL-SI RATIO 3:1) 0.8-2.0, AND H SUB2 O TO
  MAKE 100PERCENT BY WT.

UNCLASSIFIED

AA9033512   CHEMICAL ABST.   9/69   UR 0482

6

51204t Lubricating and sizing agent for glass fiber. Goloso-
va, L. V., Zatsepin, K. S. U.S.S.R. 235,907 (Cl. D 01f), 24 Jan
1969, Appl. 24 Jun 1967; From *Otkrytiya. Izobret., Prom. Ob-
raztsy, Tovarnye Znaki* 1969, 46(6), 61. The title agent consists
of poly(vinyl alc.), sucrose, metal salts, and H_2O. To improve
the physicomech. properties of the glass fiber and of goods man-
ufd. from it, Ti lactate is used as the metal salt. The following
compn. is recommended: poly(vinyl alc.) 1.25-1.5, sucrose
0.5-0.6, Ti lactate 3.5-4.0, and H_2O to 100%.   MGCL

1939   1939

USSR   UDC 616.981.553-092.9-085.373.3

GOLOSOVA, T. V., ANIKINA, T. P., and PIVEN', I. N., Central Institute of
Hematology and Blood Transfusion, Moscow

"The Therapeutic Effectiveness in Experimental Botulism of Hyperimmune
Homologous Plasma of Directed Action"

Abstract: In experiments conducted on rabbits, hyperimmune homologous plasma
was obtained by injecting to the animals botulin tritoxoid three times sub-
cataneously with intervals of 21 days, and then repeating the inoculation 6-9
mos. later. The plasma derived from the immunized rabbits was used for the
treatment of rabbits poisoned with 3 LD_{50} of type A Cl. botulinum toxin. A
pronounced therapeutic effect was obtained on application of the homologous
plasma in doses 30-150 times smaller than those of heterogeneous sera which
are commonly applied clinically. As indicated by the complement activity,
lysozyme titer, and phagocytosis, the non-specific immunity depressed by the
toxin was restored within 1-2 weeks after the beginning of treatment.

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USSR   UDC 616.155.392-036.11-07:[616.157+616.419]-078

KAGAN, G. Ya., GOLOSOVA, T. V., MARTYNOVA, V. A., CHUMAKOVA, L. P., KOPTELOVA,
Ye. I., and RASKOVA, T. M., Institute of Epidemiology and Microbiology imeni
Gamaleya, Academy of Sciences USSR, and Central Institute of Hematology and
Blood Transfusion

"Isolation and Identification of Microbial Agents From Bone Marrow and
Blood of Acute Leukemia Patients"

Abstract: Four types of microorganisms can be isolated directly from blood
and bone marrow of acute leukemia patients. Two of them are streptomicrococci
and diphtheria-like microbes unlike the classical streptococci and diphtheroids.
They are probably altered variants of the patient's microflora. Microbial
agents of the third type are either a phase of induction of the L-form in
the patient's body or a phase of bacterial reversion from the L-form. Poly-
morphic agents of the fourth type resemble the Mycoplasmataceae in several
respects and they can be tentatively regarded as "mycoplasma-like" organisms.

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- 11 -

THE RESISTANCE OF GONOCOCCI TO PENICILLIN

A. M. Golosovker, K. K. Soina, Kh. A. Alimov, S. A. Mezhlumov

Summary

The authors studied the resistance of 52 strains of gonococci obtained from 44 patients suffering from various forms of gonorrhea. The highest resistance (to 1 to 2 Units of penicillin per 1 ml of the medium) was noted in the strains of gonococci isolated from the patients suffering from chronic gonorrheal urethritis, refractory to penicillin therapy.

Penicillin resistance of gonococci in 5 patients who failed to be cured with bicillin-6 (total dose 1,200,000 Units) proved to be from 2 to 10 times greater than before administration of bicillin.

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D.I.

REEL/FRAME
19790758

USSR

GOLOTIN, A. Ye., KORSHUNOVA, G. D.

"Accelerated Methods of Testing Long-Term Strength at Room Temperature"

Tr. Sev.-Zap. Zaoch. Politekhn. In-ta [Works of Northwestern Correspondence
Polytechnical Institute], No 16, 1971, pp 50-53, (Translated from Refera-
tivnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 V1318 by G. P.
Mel'nikov).

Translation: The dependence of time to rupture on rupture stress is studied
in the case of extended application of constant loads. Tests were performed
on cylindrical specimens with notches made of type 15Kh2N3M steel and titanium
alloy Ti + 6Al at $20°$. The experiments were divided into two main stages:
the first group of specimens was tested for long term strength, the second
was subjected to active extension at various rates. The results of tests
performed showed the impossibility of construction of long term strength
curves on the basis of tests of active extension of these two alloys.

1/1

USSR

BREKHMAN, I. I., BERDYSHEV, G. D., and GOLOTIN, V. G., Institute of Biologically Active Substances, Academy of Sciences USSR, Vladivostok

"The Effect of Eleutherococcus and Ginseng on the Activity and Adaptive Synthesis of Tryptophan Pyrrolase in Rats"

Abstract: Liquid extracts of eleutherococcus and ginseng had no effect on tryptophan pyrollase (TPase) activity in normal or adrenalectomized rats. Following the simultaneous injection of normal rats with hydrocortisone and eleutherococcus, the latter intensified hormonal induction of TPase, whereas hydrocortisone plus ginseng did not alter the activity of the enzyme. After stress (caused by suspension by the neck folds for 24 hours) eleutherococcus intensified the activity and hormonal induction of TPase in both normal and adrenalectomized rats. Ginseng, on

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the other hand, had no effect on the activity or hormonal induc-
tion of the enzyme in normal animals, but sharply lowered the
level of hormonal induction in adrenalectomized animals without
affecting the activity of the enzyme. Since stress alone or
against a background of eleutherococcus significantly increases
the activity and adaptive synthesis of TPase, it would appear
that the enzyme is regulated through a nonadrenal mechanism.

TITLE--PREPARATION OF CRYSTALLINE CYANAMIDE -U-

AUTHOR-(04)-GOLOV, V.G., KUZNETSOVA, L.V., VODOPYANOV, V.G., IVANOV, M.G.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(3), 198-200

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CRYSTAL, CALCIUM COMPOUND, CYANAMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0531   STEP NO--UR/0064/70/046/003/0198/0200

CIRC ACCESSION NO--AP0124226
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0124226

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ORDER TO PREVENT FORMATION OF H
SUB4 C SUB2 N SUB4 (I) IN THE MANUFG. OF H SUB2 CN SUB2 (II), A CACN
SUB2 SUSPENSION IN H SUB2 O IS TREATED WITH CC SUB2 AT LESS THAN
20-5DEGREES. THE CA PRIME2 POSITIVE IONS ARE THEN REMOVED FROM THE
RESULTING 5PERCENT II SOLN. BY ION EXCHANGE BY THE TECHNIQUE OF
GOL'DBERG, ET AL. (1960), THE PH IS ADJUSTED TO 4.5-5.5 BY THE ADDN. OF
H SUB2 SO SUB4, AND THE SOLN. IS CONCD. BY A 2 STAGE VACUUM EVAPN.
PROCESS TO 30PERCENT II BY EVAPN. AT 40DEGREES AND TO 70-80PERCENT II BY
EVAPN. AT 20DEGREES.   THE II IS THEN CRYSTD. BY COOLING THE SOLN. TO
MINUS 15DEGREES; THE PRODUCT CONTAINS 5PERCENT H SUB2 O, 10PERCENT I AND
THE BALANCE II. A PRODUCT OF LOWER I CONTENT (4.5PERCENT) MAY BE
OBTAINED BY HEATING THE CRYSTALS TO 20DEGREES AND REMOVING THE LIQ.
PHASE. THE II MAY BE STORED FOR UP TO 1 MONTH AT 20DEGREES BUT MORE
PROLONGED STORAGE REQUIRED STABILIZATION OF THE II (TO PREVENT FORMATION
OF I, E.G., UNSTABILIZED II IS QUANT. CONVERTED TO I WITHIN 11 MONTHS AT
20DEGREES) BY THE ADDN. OF 1PERCENT OF BAOH OR 0.2PERCENT OF IODINE;
AFTER THE STABILIZATION, THE MOLTEN (AT 45-50DEGREES)II MAY BE FROZEN
AND GRANULATED BY CRUSHING.

AA0043443⁻   Golov, V.G.   UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-70

230111 CONCENTRATED CYANAMIDE SOLUTIONS as an
intermediate in the manufacture of cryst-
alline cyanamide, obtained by vacuum evaporation
of dilute 5-10° solutions acidified by sulphuric
acid, are produced more effectively by evaporating
in two stages, at maximum residual pressures of
60 and 30 mmHg respectively, and by bringing the
cyanamide solution concentration to 20-30% in the
first stage. In an example, after feeding 10 m3/h
of 5% cyanamide solution acidified to pH 4.5-5.5
into a tank , 30-50 m3/h of the solution were
circulated via an evaporator and a separator back
to the tank. Vapour was fed into the inter-tube
space of the evaporator at below 3 atm. steam also
being passed into a surface condenser, where it
was condensed and mixed with calcium cyanide;
the residual pressure was 50-60 mmHg. 2.4 m3/h
of 20% solution were passed from the first tank
to a second tank for repetition of the above-men-

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AA0043443

tioned cycle, the steam and vapour being condensed
in a mixing condenser. 1.2 m^3/h of 40% solution
were passed to the collector tank, at a total loss
of cyanamide in solution of not more than 5%.

2.11.66. as 1111777/23-26. V G.GOLOV et alia.
Dzerzhinski Sec. Nitrogen Ind. and Organic
Synthesis Products Res. Inst. (18.3.69.) Bul.34/
30.10.68. Class 12k. Int.Cl. C01c.

LD

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19761783

AA0043443

AUTHORS: Golov, V. G.; Kuznetsova, L. V.; Fel'dshteyn, I. B.; Zatsepina, M. B.;
Strigina, G. A.

Dzerzhinskiy Filial Gosudarstvennogo Nauchno-Issledovatel'skogo i Proyektnogo
Instituta Azotnoy Promyshlennosti i Produktov Organicheskogo Sinteza

19761784

USSR   UDC 615.9-057:612.84/.88

ANTONYUZHENKO, V. A., GOLOVA, I. A., and ALIYEVA, N. K., Institute of Labor .
Hygiene and Occupational Diseases, Gor'kiy

"The Condition of Analysor Functions in Chronic Occupational Intoxication by
Some Narcotic Chemicals"

Abstract: Gustatory, olfactory, vestibular, auditory, and visual analysor func-
tions of 60 patients with pronounced (stage II and III) occupational intoxica-
tion with unsaturated and chlorinated hydrocarbons and methyl methacrylate were
tested. The vestibular analysor displayed the clinically most distinctive
shifts: Misses in the finger-to-nose test and instability in the Romberg stance
were recorded. Half the patients had no vestibulomotor response to thermal
nystagmus tests, while 1/3 had severe autonomic reactions. Optokinetic
nystagmus tests indicated rapid exhaustion. Visual functions were worsened
primarily due to abnormal oculomotor function. Though complaints of poor
vision were infrequent, studies of optic chronaxie, dark adaptation, and flash
discrimination threshold indicated changes in most patients. Complaints of
problems with other analysors were absent, but tests indicated diminished
hearing ability, heightened taste thresholds for bitter and sweet, and poorer
olfactory sensitivity. With respect to vestibular disturbances, the data
1/2

USSR

ANTONYUZHENKO, V. A., et al., Gigiyena Truda i Professional'nyye Zabolevaniya,
No 9, 1972, pp 19-22

demonstrates inadequacy of central vestibular divisions and suggests involve-
ment of brain stem nuclei. Disturbances of the remaining analysors primarily
involve inadequacies in their cortical segments. Instability of central
nervous mechanisms evidenced in visual analysors is probably intensified by
oculomotor disturbances. Reticular formation dysfunction is implicated in the
functional-dynamic nature of visual, auditory, gustatory, and olfactory dis-
turbances.

2/2

USSR   UDC 612.766.1:656.13.071.7

VAYSMAN, A. I., LASHCHENKO, N. S., IKSANOV, M. SH., DOROFEYEVA, Ye. D.,
ROSTOVTSEVA, G. G., GOLOVA, I. A., CHANDAYEV, A. K., VOL'PER, C. I., and
E. I. KOGAN

"Physiological Characteristics of the Work of Bus and Truck Drivers in a Large
City"

Abstract: The results of various functional psychological and physiological
tests (reflexes, reaction to a moving object, proof reading test, EKG, blood
pressure, pulse, etc.) confirmed the conclusions drawn from questionnaires
filled out by 8000 bus drivers that fatigue gradually sets in after 4 to 5
hours on the job and becomes pronounced after 7 to 8 hours of driving. Along
with a deterioration in performance, many showed an "improvement" in some
physiological indices at the end of the work shift (e.g., increase in number of
correct reactions to a moving object, decrease in time of differential reac-
tions). This "improvement" is regarded as the result of overstraining the
compensatory mechanisms in order to preserve a level of activity sufficient to
protect the life and health of the driver. The truck drivers, on the other
hand, continued to function well even after 8 or 9 hours on the job because
1/2

USSR

VAYSMAN, A. I., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 1,
1973, pp 13-16

of the less strenuous nature of the work (less time spent in driving during the
shift, fewer actions to control the vehicle per unit of time, and less emotional
stress). Some suggestions are made for altering the work schedules of bus
drivers to take into account the physiological factors uncovered in the study.

2/2

HYGIENIC WORK CONDITIONS AND HEALTH STATUS
OF WORKERS ENGAGED IN PRODUCTION
OF TOLUENEDIAMINE

V. S. Filatova, A. Ya. Tubina, Z. V. Sharonova, I. A. Golova,
V. I. Filina, Dorofeyeva, Ye. D.

While obtaining toluenediamine by using Baier's method the air of work shops can be polluted with toluenediamine, methanol, o-dichlorobenzene and dinitrotoluene. The two lastly named substances could not be traced in most of the samples. The most commonly encountered TDA and methanol concentrations were below the maximally permissible levels. Materials derived from these investigtions bring evidence that continuous method of TDA production with remote and automatic control of technological operations and the equipment employed for this purpose deserve high appraisal. The study of the workers' health status revealed mildly pronounced pathological shifts on the level of nervous system, blood and liver.

REEL/FRAME
19770453

USSR

GOLOVACH, A. V., YERINA, A. M. and TROFIMOV, V. P.

"Criteria of Mathematical Statistics in Economic Studies"

Kriterii Matematicheskoy Statistiki v Ekonomicheskikh Issledovaniyakh
[English version above], Moscow, Statistika Press, 1973, 136 pp (Trans-
lated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No
9V325K)

Translation: This book studies the general statements of the theory
of testing of hypotheses, presents the characteristics of the basic
statistical criteria and indicates the peculiarities of their applica-
tion to social-economic studies. The classifications of criteria were
based not on their mathematical properties, but rather on the following
problems, solved using the criteria: testing of hypotheses concerning
the basic parameters of a set, testing of hypotheses concerning distri-
butions and testing of the existence of a relationship between charac-
teristics. The appendices present tables of distribution functions and
quantiles, as well as graphs of the power of criteria. The book is de-
signed for economists, statisticians, teachers and students in economic
schools and departments.   Annotation

1/1

GOLOVACH, V. M. and PAKOSH, V. G.

"Effect of Ultraviolet Irradiation on the Content of Phosphorus Compounds in Chick Tissues"

Translation: The authors studied the effect of ultraviolet irradiation on some phosphorus compounds in 10-day-old chicks. The animals were irradiated with a PRK-2 lamp at a dose of 38 mer/hour/m^2. The objects investigated were liver, thoracic and femoral muscle tissues. The particular dose of UV radiation was found to induce definite changes in the phosphorus content of the nucleic acids, RNA in particular. These changes were more pronounced in liver and femoral muscle tissues than in thoracic muscle tissues.

1/1

AMINO ACIDIC COMPOSITION OF CALF SKIN PROTEINS
AND EFFECT OF ULTRA-VIOLET IRRADIATION ON IT

V. N. Golovach, I. B. Ratych

The Ukrainian Research Institute of Physiology and Biochemistry
of Agricultural Animals, Lviv

Summary

By means of paper chromatography the percentage content of some amino acids of skin proteins was investigated in ordinary calfs as well as in those with sheared placed under irradiation by the mercury quartz lamps.

It is established tha ultra-violet irradiation of animals in a dose of 190 $MR \cdot h/m^2$ causes only an inconsiderable decrease in histidine percentage. As to other amino acids under study — cystine, lysine, arginine, sum of asparaginic acid, glycine, serin, sum of glutamic acid and threonine, alanine, tyrosine, valine with methionine, phenylalanine, leucine with isoleucine, their percentage content was not essentially changed.

REEL/FRAME
19790829

USSR

UDC 678.027.5:678.674'524'42

FOMINA, L. L., GAVRILOVA, L. B., BOGDANOV, YU. N., and GOLOVACHEV, M. YE.

"Production of Multilayer Films Based on the Metal Plated Lavsan"

Moscow, Plasticheskiye Massy, No 11, 1972, pp 38-40

Abstract: Production and some characteristic properties of various multilayer films with low gas permeability have been reported. The starting material consisted of polyethylene terephtalate films plated with aluminum either on one side or on both. Low density nonstabilized polyethylene served as the adhesive. The preparation of multilayer films was carried out by the extrusion method. The gas permeability of the multilayer films depends on the gas permeability of the components. The doubly plated films showed lower air permeability than parent films, provided that the thickness of the multilayer films was at least $10\,\mu$. These films find application in the production of wrapping material, casings, boxes, etc.

1/1

- 70 -

1/2   013   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--THE EFFECT OF THE INTENSITY OF MACHINE UTILIZATION ON THE OPTIMUM
  QUANTITY OF SERVICE PERSONNEL -U-
AUTHOR--GOLOVACHEV, P.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, TRUDY LENINGRADSKOGO INSTITUTA VODNOGO TRANSPORTA
REFERENCE--REF. ZH., VODNYY TRANSPORT, NO 3, 1970, ABSTRACT NO 3814523, PP
DATE PUBLISHED-------70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, MECH., IND., CIVIL AND
  MARINE ENGR
TOPIC TAGS--MACHINE INDUSTRY R AND D, PERSONNEL, SERVICING TECHNIQUE,
  ECONOMIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0826   STEP NO--UR/0000/70/000/123/0016/0026

CIRC ACCESSION NO--AR0128338
                         UNCLASSIFIED

CIRC ACCESSION NO--AR0128338

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   A METHOD FOR DETERMINING THE
OPTIMUM NUMBER OF SERVICE PERSONNEL (ON THE BASIS OF QUERING THEORY) IS
SET FORTH, WHICH TAKES INTO ACCOUNT THE INTENSITY OF MACHINE
UTILIZATION.   THE CHARACTER OF THE EFFECT OF UTILIZATION INTENSITY AND
THE COST OF MACHINE   DLE TIME UPON THE OPTIMUM NUMBER OF SERVICE
PERSONNEL IS SHOWN.

UNCLASSIFIED

USSR

GOLOVACHEV, V. and GUROVSKIY, N. N., Doctor of Medical Sciences

"The Riddles of Weightlessness"

Moscow, Trud, 15 Jun 70, p 3

Abstract: Some interesting aspects of spaceflight are discussed. The human body's adaptation to weightlessness is described; the adaptive changes resulting in loss of water and calcium, and the weakening of some reflexes are discussed. No permanent harmful effects are expected from spaceflights, even long ones. Astronauts are given silver in their drinking water to eliminate undesirable microbes. Dehydrated food is very useful on prolonged spaceflights. The radiation to which the Soyuz-9 astronauts were subjected was a harmless amount; if solar flares were to increase it, special medication is available. Health and physical fitness requirements for spaceflight crews still remain strict, but they are relaxed and adapted to individual needs in the case of scientists and observers.

1/1

1/2   033   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--BAYKONUR, JUNE OF 1970 -U-

AUTHOR--GOLOVACHEV, V.

COUNTRY OF INFO--USSR

SOURCE--TRUD, JUNE 3, 1970, P 3, COLS 1-5

DATE PUBLISHED--03JUN70

SUBJECT AREAS--SPACE TECHNOLOGY

TOPIC TAGS--MANNED SPACECRAFT, SPACECRAFT LAUNCH PLATFORM,
  COSMONAUT/(U)SOYUZ 9 SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/1913   STEP NO--UR/9025/70/000/000/0003/0003

CIRC ACCESSION NO--AN0104987
                        UNCLASSIFIED

CIRC ACCESSION NO--AN0104987
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   WHEN GOLOVACHEV VISITED THE
BAYKONUR LAUNCH COMPLEX, HE HAD AN OPPORTUNITY TO TALK TO A DEPUTY CHIEF
DESIGNER OF THE "SOYUZ" PROGRAM (KOMPLEKS).   THREE PHOTOGRAPHS ARE
GIVEN SHOWING NIKWLAYEV AND SEVAST'YANOV OF A CATWALK OF THE LAUNCH PAD
AND IN THE SPACE SHIP PRIOR TO BLAST OFF, ALSO THE ROCKET BEING READIED
PRIOR TO BLAST OFF.

UNCLASSIFIED

TITLE--IT'S GUOD TO BE ON BELOVED EARTH -U-

AUTHOR--GOLOVACHEV, V.

COUNTRY OF INFO--USSR

SOURCE--TRUD, JUNE 20, 1970, P 2, COLS 3-6

DATE PUBLISHED--20JUN70

SUBJECT AREAS--SPACE TECHNOLOGY, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--SPACECRAFT LANDING, MANNED SPACECRAFT, COSMONAUT/(U)SOYUZ 9
  MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1590   STEP NO--UR/9025/70/000/000/0002/0002

CIRC ACCESSION NO--AN0108010
                    UNCLASSIFIED

CIRC ACCESSION NO--AN0109010
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME OF THE FIRST SENTENCES
UTTERED BY THE ASTRONAUTS UPON THE LANDING OF "SOYUZ 9" 75 KILOMETERS
FROM KARAGANDA WERE "I FEEL HEAVINESS IN MY ENTIRE BODY", SAID
NIKOLAYEV. "I LIFTED UP THE HELMET BUT DROPPED IT. IT FELT SO HEAVY",
ADDED SEVAST, YANOV, THE ASTRONAUTS LOOKED SOMEWHAT TIRED, PALE, AND
SOMEWHAT DRAWN.

UNCLASSIFIED

USSR

KUZ'MIN, E. A., GOLOVACHEV, V. P., ILYUKHIN, V. V., BELOV, N. V., Gor'kiy
State University, Crystallography Institute of the USSR Academy of Sciences

"Systematic Analysis of the Patterson Function Based on Crystal Symmetry. IV.
Interpretation of the Patterson Syntheses of Low-Syngony Crystals"

Abstract: An algorithm is presented in analytical form for isolation of the
rhombuses of the peaks, matching the basic and satellite rhombuses, and also
recording the base segment in the basic system for low-syngony crystals. The
algorithm makes it possible to check for the presence of all peaks joined into
rhombuses and generated by 2k atoms in the Patterson function. The final step
is isolation of the singularity which completely defines the origin in the given
specific Fedorov group with respect to the initial segment.   A necessary
condition is the presence of all peaks of the rhombuses. If at least one of
the vectors (peaks) is absent, the final point simply is not isolated. In the
centered lattices several points are isolated, but they are related by the cor-
responding translations. If only the Roentgen group is known, the analysis is

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USSR

KUZ'MIN, E. A., et al., Kristallografiya, Vol 18, No 1, 1973, pp 54-62

carried out within the framework of the Fedorov groups entering into it, and during the analysis process the true one is established. Inasmuch as after isolating the rhombuses the position of the initial (base segment) is obtained, the coordinates of the 2k atoms are established. Their position must be used to isolate the entire structure by the M_{2k} rank minimization function.

2/2

USSR
KUZ'MIN, E. A., GOLOVACHEV, V. P., and BELOV, N. V.

UDC: 548.735.46

"System Analysis of the Patterson Function on the Basis of Crystal
Symmetry"

Abstract: This paper, subtitled "Using Peak Rhombs for Determining
Structural Fragments," is the second part of a work the initial
section of which was published in the same journal noted above
(3, 3, 1958, p 269). The subject of the series is the analysis
of the Patterson function based on fundamental and vector systems
of segments, through which a fragment of the structure of 2k
atoms, where k is the coordinate of the atoms, is obtained. The
use of peak rhombs, as described in this paper, is a more graphic
way of representing bond peaks. It is noted that the conclusions
of this paper are applicable to arbitrary symmetries, although the
detailed analysis it presents is for Fedorov groups of lower syn-
gony. The paper describes the method for localizing the peak
rhombs, through which the coordinates of pairs of nonequivalent
atoms with ordinary n-significance can be determined, and dis-
cusses fundamental and satellite peak rhombs. The authors are as-
sociated with the Gorkiy Physicotechnical Research Institute.
1/1

- 50 -

.USSR   UDC 548.735.46

KUZ'MIN, E. A., GOLOVACHEV, V. P., and BELOV, N. V., Gor'kiy Physicotechnical
Research Institute

"Systematic Analysis of Patterson Function on the Basis of Crystal Symmetry.
I. Vector Systems of Sections"

Abstract: An earlier article by the authors extended the peak triple theorem
to cover twofold symmetry elements. The representations of this article are
generalized in the present article for the case of arbitrary symmetry. A
systematic analysis procedure which makes the fullest use of Patterson func-
tion properties for symmetric crystals is the simultaneous consideration of
the peaks of two connectives and the peaks of their interaction, as a result
of which it is possible to combine Patterson peaks into pairs of rhombuses for
each symmetry operation. Each symmetry element of the space group is charac-
terized by "its own" rhombus of peaks, which occupies a characteristic posi-
tion in the vector system. The centers of the rhombuses retain the plane and

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linear concentrations inherent in the given Fedorov group. This makes it possible to use the rhombuses of peaks for a clearer determination of the space group of a crystal from its Patterson function.

2/2

UNCLASSIFIED   PROCESSING DATE--04DEC70

TITLE--PRINCIPLES OF THE FORMATION OF CRYSTALS AND CRYSTALLINE CONCRETIONS
OF CALCIUM HYDROXIDE IN SETTING CEMENT STONE -U-

AUTHOR-(05)-BUTT, YU.M., TIMASHEV, V.V., BAKSHUTOV, V.S., ILYUKHIN, V.V.,
GOLOVACHEV, V.P.

COUNTRY OF INFO--USSR

SOURCE--TSEMENT 1970, (2), 20-2

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--X RAY DIFFRACTION, CRYSTALLIZATION, CALCIUM COMPOUND, CEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0894   STEP NO--UR/0101/70/000/002/0020/0022

CIRC ACCESSION NO--AP0137922
                    UNCLASSIFIED

272   014   UNCLASSIFIED   PROCESSING DATE--04DEC70
IRC ACCESSION NO--AP0137922
BSTRACT/EXTRACT--(U) GP-O- ABSTRACT. VISUAL, X RAY DIFFRACTION, AND
ELECTRONOGRAPHIC STUDY OF CRYSTALS AND CRYST. CONCRETIONS OF PORTLANDITE
CO(OH) SUB2 (I), FORMED AND GROWING UNDER DIFFERENT CONDITIONS: SATD.
SOLNS. CACL SUB2 AND KOH, HYDRATATION OF TRI,CA SILICATE, AND CEMENTS IN
EXCESS OF WATER OR IN USUAL O. OF CEMENT PASTE, IS GIVEN. I
CRYSTALLIZES IN THE FORM OF COLORLESS HEXAGONAL TABLETTES OF PRISM AND
BELONGS TO THE SPACE GROUP C3ML, A EQUALS B EQUALS 3.60, C EQUALS 5.0
ANGSTROM, INTERAT. DISTANCES CA,O 1.14, O,H 0.79, H,H 1.03 ANGSTROM.
THE CONCRETIONS ORIGINATE IN THE PERIOD OF SUPERSATD. COMPN. OF SOLN.
OWING TO SIMULTANEOUS GROWTH OF CRYSTALS FROM ONE POINT OR EDGE. THE
SIZE OF CRYSTALS FORMING THE CONCRETIONS IS NOT HIGHER THAN THE SIZE OF
CRIT. CRYSTG. NUCLEUS (10 PRIME NEGATIVE6-10 PRIME NEGATIVE5 CM); BY
FURTHER INCREASE OF THE CRYSTAL SIZE, THE PROBABILITY OF FORMATION OF
THE CONCRETIONS DECREASES.   FACILITY: MKHTI IM. MENDELEEVA,
MOSCOW, USSR.

UNCLASSIFIED

USSR   UDC: 548.735.46

KUZ'MIN, E. A., BOCHKOVA, R. I., SAF'YANOV, Yu. N., GOLOVACHEV,
V. P., and BELOV, N. V.

"Systematic Analysis of the Paterson Function on the Basis of
Crystal Symmetry"

Abstract: This paper, bearing the subtitle "Principles of Rhombus
Degeneration in the Vector Systems of Lower Syngony Crystals," is
the fifth installment of a series bearing the general title given
above. The function of the present installment is to consider
cases of the degeneration of rhombi for variants of a particular
cut, in Fedorov groups of crystals having lower syngonies with
three and a family of symmetry elements. The degeneration of
rhombi in Fedorov groups with a single symmetry element was ex-
amined in an earlier paper (E. A. Kuz'min, et al, Sb. Patersonov-
skiye metody rasshifrovki struktur -- Collection of Works on
Paterson Methods of Structure Interpretation -- "Shtiintsa," Kishi-
nev, 1972). The results obtained in that article are here extended
to groups with several such elements. The authors thank V. V.
Ilyukhin for his participation in the discussion of the results.
1/1

USSR   UDC 548.734

KUZ'MIN, E. A., GOLOVACHEV, V. P., Academician BELOV, N. V.
(Gorkiy Physico Technical Institute, Gorkiy State University imeni
N. I. Lobachevskiy; Institute of Crystallography, Academy Sciences
USSR, Moscow)

"Details of Patterson's Syntheses Directly Related to Elements of
Structural Crystal Symmetry"

Moscow, Doklady Akademii Nauk SSSR (Proceedings of the Academy of
Sciences USSR), Vol 192, No 1, pp 86-89

Abstract: Patterson crystallographic function peaks are of two
kinds: bond peaks that determine the distance between symmetrically
equivalent atoms and interaction peaks that determine the vector
between differently bound atoms. A triple-peak theorem permits
analysis of many structures, especially the structural elements of
the second order.

A geometric procedure is developed to show the elementary system of
triple peaks as a set of n segments, where n is the number of the
symmetry group. The first segment connects two differently-bonded
1/2

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KUZ'MIN, E. A., et al, Doklady Akademii Nauk SSSR, Vol 192, No 1,
pp 86-89

atoms, and succeeding segments extend to all of the symmetry elements
of this group. The vector system becomes a set of representations
of all points of the system of the initial segment. Such a vector
system is shown graphically for the space groups PĪ, P2, Pm, and
others. The resulting figures are rhombuses.

The representation of Patterson peaks in vector form was found
extremely useful in analyzing the structure of sodium bichromate.

The authors thank S. V. Borisov and V. V. Ilyukhin for valuable dis-
cussions concerning certain assumptions and the results obtained.
Orig. art. has 2 figs. and 5 refs.

2/2

GOLOVACHEV, V. P., DROZDOV, Yu. N., KUZ'MIN, E. A., and BELOV, N. V., Academician, Gor'kiy Physicotechnical Institute at Gor'kiy State University imeni N. I. Lobachevskiy

"Crystalline Structure of Fenaksite FeNaK[Si$_4$O$_{10}$] (KNaFe[Si$_4$O$_{10}$])"

Abstract: A structural study was made of the Khibinskiy mineral fenaksite-K, Na, Fe-silicate- discovered in 1959 by M. D. Dorfman. The initial model of fenaksite structure was obtained from an analysis of the three-dimensional Patterson function. Seven peaks of the Patterson function were used and it was possible to distinguish a basic system containing 11 peaks, but they could not be identified on the basis of the Patterson function. The final values for all 51 position parameters are given in the Table:

1/2

USSR

GOLOVACHEV, V. P., et al, Doklady Akademii Nauk SSSR, Vol 194, No 4, 1 Oct 70,
pp 818-820

Atoms	x/a	y/b	z/c	Atoms	x/a	y/b	z/c
K	0.140	0.809	0.010	O_3	0.632	0.424	0.167
Na	0.525	0.270	0.410	O_4	0.431	0.838	0.286
Fe	0.049	0.299	0.407	O_5	0.794	0.798	0.220
Si₁	0.669	0.913	0.213	O_6	0.790	0.139	0.290
Si₂	0.230	0.631	0.270	O_7	0.033	0.029	0.305
Si₃	0.380	0.304	0.131	O_8	0.175	0.589	0.418
Si₄	0.803	0.632	0.273	O_9	0.760	0.655	0.436
O_1	0.630	0.856	0.041	O_{10}	0.251	0.192	0.237
O_2	0.294	0.457	0.133				

Figures are given showing the crystalline structure of fenaksite in polyhedra;
the basic architectural component of the structure was a tubular silicon-oxygen
radical $[Si_8O_{20}]_\infty$ of a new type. Similar tubular radicals were observed in
narsarsukite in 1960 and in kanasite in 1969.

AA0051848 GOLOVACHEV V.T. UR 0482   //

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

239597 INDUCTIVE LEVEL METER where a float can move
freely along the inductive coils indicating
its position corresponding to the measured level.
The float has been improved, it has two flanges
which make it possible to obtain a parallel reading
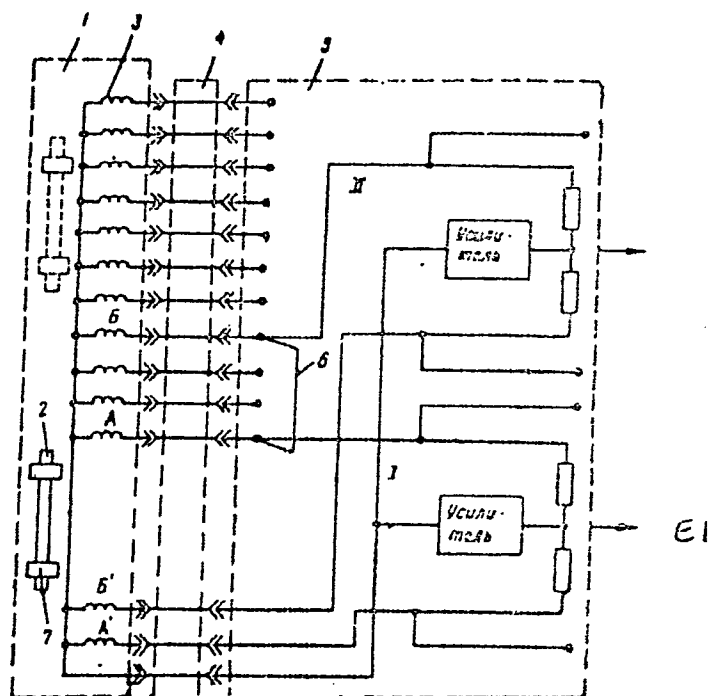from two independent coils.
12.12.66 as 1119046/26-10. A.S. ABRAMOV et al.
(28.7.69) Bul 11/18.3.69. Class 42e. Int.Cl.G 01f.

AUTHORS: Abramov, A. S.; Zotov, S. V.; Maslov, G. S.; Vargin,B.A.;
Shorin, N. I.; Kornyushin, P. M.; Mirskoy, B. I.; Chistyakov, N. N.;
Mosyakov, V. A.; Kozlovskiy, G. V.; Chichigin, I. B.; Batov, V. A.;
Golovachev, V. T.; Lyakhterov, M. N.; Kobelev,Yu. M.

1/2   19820276 |

AA0051848

19820277

TITLE--VIBRATIONAL DISSOCIATION RELAXATION IN THE AIR FLOW BEHIND A DIRECT
   SHOCK WAVE -U-
AUTHOR-(02)-GOLOVACHEV, YU.P., LUNKIN, YU.P.

CCUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA,
   JAN.-FEB. 1970, P. 48-52
DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--AIR FLOW, SHOCK WAVE, SHOCK WAVE PHYSICS, CHEMICAL REACTION,
   VIBRATION RELAXATION, DISSOCIATION, QUANTUM CHEMISTRY, THERMAL SHOCK,
   MOLECULE, RELAXATION PROCESS, MATHEMATIC EXPRESSION, ENERGY THEORY,
   NITROGEN, NITROGEN OXIDE, OXYGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1790   STEP NO--UR/0421/70/000/000/0048/0052

CIRC ACCESSION NO--AP0112776
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0112776
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DERIVATION OF EXPRESSIONS FOR THE
PROBABILITY OF OCCURRENCE OF CHEMICAL REACTIONS AND VIBRATIONAL
RELAXATION TIMES, ASSOCIATED WITH THE EXCHANGE IN QUANTA OF THERMAL
VIBRATIONS AMONG MOLECULES. THE EXPRESSIONS OBTAINED ARE USED IN
COMBINATION WITH KOLESHKO'S ET AL. (1967) RELAXATION EQUATIONS TO
ANALYZE THE AIR FLOW BEHIND A DIRECT SHOCK FRONT IN THE PRESENCE OF
VIBRATIONAL DISSOCIATION RELAXATION. THE INFLUENCE OF VIBRATIONAL
RELAXATION ON THE CHEMICAL REACTION RATE AND THE INFLUENCE OF THE RATE
OF DISSOCIATION RELAXATION ON THE CHANGES IN THE MEAN VIBRATIONAL ENERGY
OF MOLECULAR COMPONENTS AND ON THE EXCHANGE IN QUANTA OF THERMAL
VIBRAITONS ARE TAKEN INTO ACCOUNT. THE CALCULATIONS REVEAL A
SUBSTANTIAL INFLUENCE OF VIBRATIONAL RELAXATION AND OF EXCHANGE IN
QUANTA OF THERMAL VIBRATIONS BETWEEN OXYGEN, NITROGEN, AND NITROGEN
OXIDE MOLECULES ON THE FLOW PARAMETERS.

UNCLASSIFIED

USSR   UDC 532.517.2

GOLOVACHEV, YU. P.

"Effect of Nonuniformity of the Radiation Field on a Jet Stream of Radiating Gas"

Trudy Leningradskogo Politekhnicheskogo Instituta, Aerotermodinamika (Works of the Leningrad Polytechnical Institute, Aerothermodynamics), No 313, 1970, pp 53-59

Translation: This article contains a study of the problem of a jet stream of radiating gas. The radiation energy transport is considered in the differential approximation. The method of finite differences is used to find the solution of the problem first considering only the transverse radiation energy transport and then considering the transverse and longitudinal transport. Comparison of the solutions permits analysis of the effect of longitudinal radiation energy transport on the jet stream of radiating gas. The radiation, thermodynamic and transport properties of the gas were considered constant. There are 4 illustrations and a 6-entry bibliography.

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AM0037796

NUCLEAR SCI. ABST./-7ᶜ   UR0000

1682   (CERN-Trans–69-13)   BIOLOGICAL SHIELDING AND
TECHNIQUE OF RAPID EJECTION AT 70 GeV. Britvich, G. I.;
Golovachik, V. T.; Krupnyi, G. I.; Lebedev, V. N.; Mal'kov, V. V.;
Bushuev, N. I. (Gosudarstvennyi Komitet po Ispol'zovaniyu
Atomnoi Energii SSSR, Serpukhov. Institut Fiziki Vysokikh En-
ergii).   Translated by A. Golovanoff (CERN, Geneva, Switzer-
land), from report IFVE-ORZ–69-5. 44p. (In French). Dep.

The biological shielding for a proton fast-ejection system was
calculated for an ejected proton beam with energy of 70 and 85
GeV and intensity of 10^{12} protons/cycle for a repetition rate of
8 cycles/min and proton efficiency of 100%. The shielding against
the nuclear activity, the μ mesons, and residual activity of the
target station were calculated. The arrangement of the biological
shielding of the target station was discussed. (J.S.R.)

19730784

19 dp

1/2   022   UNCLASSIFIED   PROCESSING DATE--11DEC70
TITLE--CHANGE IN THE TYPE OF PHOTOINDUCED PLANT LUMINESCENCES AS A RESULT
  OF HERBICIDAL ACTION. SECOND COMMUNICATION. CHARACTERISTICS OF THE
AUTHOR-(05)-MOCHALKINA, K.I., ROMAN, L.L., GOLOVAN, A.M., MOCHALKIN, A.I.,
  ALEKSEYEV, S.I.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KHIMIYA V SEL'SKOM KHOZYAYSTVE, VOL 8, NR 4 (78), APR 70,
  PP 53-60
DATE PUBLISHED----APR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERBICIDE, ALKYL RADICAL, BENZENE DERIVATIVE, UREA DERIVATIVE,
  PHOTOCHEMISTRY, PLANT PHYSIOLOGY, LUMINESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605014/C09 STEP NO--UR/C394/70/008/004/0058/0060

CIRC ACCESSION NO--AP0140479
                            UNCLASSIFIED

CIRC ACCESSION NO--AP0140479
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. CHLOROPHYL MOLECULES EXCITED BY
LIGHT QUANTA CAN TRANSFORM THE CAPTURED ENERGY EITHER CHEMICALLY, OR BY
MEANS OF PHOTOREEMISSION. PRESENTLY HERBICIDES OF THE PHENYLDIALKYLUREA
GROUP ARE USED WIDELY TO CONTROL WEEDS AND THEY SPECIFICALLY EFFECT
FLUORESCENCE AND PHOTOPHOSPHORESCENCE. STUDYING THE MECHANISM OF THEIR
ACTION, THE AUTHORS UTILIZED A PHOSPHORESCENCEGRAPH, DESCRIBED EARLIER.
IT WAS DETERMINED THAT UREA DERIVATIVES AFFECT BOTH THE CHARACTERISTICS
AND INTENSITY OF PHOTOREEMISION OF TREATED PLANT LEAVES, REGARDLESS
WHETHER THE AGENT WAS SPRAYED OVER THE LEAVES OR INTRODUCED INTO THE
ROOM SYSTEM. THIS CHANGE IN THE INTENSITY OF THE PHOTOREEMISION
INDICATED THE TIME WHEN A TOXIC AGENT ENTERED THE PLANT PORTION ABOVE
THE GROUND AND BY THE SAME TOKEN GAVE DATA ON THE MIGRATION OF THE
AGENTS IN SOIL.   FACILITY: ALL UNION SCIENTIFIC RESEARCH
INSTITUTE OF PHYTOPATHOLOGY, MOSCOW, MINISTRY OF AGRICULTURE USSR.
  FACILITY: INSTITUTE OF BIOCHEMISTRY AND PHYSIOLOGY OF MICROORGANISMS,
PUSHCHINO, ACADEMY OF SCIENCES USSR.

UNCLASSIFIED

TITLE--CHANGE IN THE NATURE OF THE PHOTOINDUCED LUMINESCENCE OF PLANTS
   UNDER THE INFLUENCE OF HERBICIDES. 2. EFFECT OF ARYLDIALKYLUREA
AUTHOR-(05)-MOCHALKINA, K.I., ROMAN, L.L., GOLOVAN, A.M., MOCHALKIN, A.I.,
   ALEKSEYEV, S.I.
COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(4), 298-300

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ARYL RADICAL, ALKYL RADICAL, UREA, HERBICIDE, PLANT
   PHYSIOLOGY, PHOTOCHEMISTRY, FLUORESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0025   STEP NO--UR/0394/70/008/004/0298/0300

CIRC ACCESSION NO--AP0137224
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0137224

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIURON, MONURON, AND PHENURON (IN
   70PERCENT ETOH) AT CONCN. OF 0.1, 0.01, AND 0.001PERCENT WERE APPLIED TO
   THE LEAVES OF KIDNEY BEAN PLANTS AT THE FIRST BREAKING OF THE BUD, AND
   TO THE ROOTS OF GERMINATED SEEDS, GROWN ON PERFORATED PLATES. A MARKED
   DISTURBANCE OF PHOTOREMISSION OF THE LEAVES OF THE PLANTS WAS NOTED LESS
   THAN 1 DAY AFTER TREATMENT. THE GREATEST ACTIVITY WAS SHOWN BY DIURON.
   SOY PLANTS GROWN IN A GREEN HOUSE WERE SPRAYED WITH AQ. ACETONE SOLNS.
   OF LINURON AND MONURON AT DOSES 0.3 AND 1.0 KG-HA, RESP., PLOTS OF SOY
   WERE TREATED WITH THE SAME HERBICIDES 3 DAYS AFTER SOWING.
   PHOTOREMISSION OF THE LEAVES OF THE PLANTS WAS CHANGED, MONURON BEING
   THE MORE ACTIVE. INDEPENDENT OF HERBICIDES APPLICATION TO EITHER THE
   LEAVES OR THE ROOT SYSTEM, THERE WAS A CHANGE IN THE NATURE AND
   INTENSITY OF PHOTOREMISSION OF THE LEAVES. THE TIME OF MIGRATION OF THE
   HERBICIDE FROM THE ROOT SYSTEM TO THE ABOVE GROUND FOLIAGE COULD BE
   DETD. BY THE CHANGE OF PHOTOREMISSION OF THE LEAVES, AND THE TIME OF
   MIGRATION OF THE HERBICIDES IN THE SOIL.   FACILITY: INST.
   BIOKHIM. FIZIOL. MIKROORG., MOSCOW, USSR.

UNCLASSIFIED

USSR   UDC: 632.954 + 661.717.5

MOCHALKINA, K. I., ROMAN, L. L., GOLOVAN', A. M., MOCHALKIN, A. I.,
ALEKSEYEV, S. I., All Union Scientific Research Institute of Phytopath-
ology, Moscow, Ministry of Agriculture USSR; and SOKOLOV, M. S., Institute
of Biochemistry and Physiology of Microorganisms, Pushchino, Academy of
Sciences USSR

"Change in the Type of Photoinduced Plant Luminescences as a Result of
Herbicidal Action. Second Communication. Characteristics of the Action
of Aryldialkylurea Type of Herbicides on Photoreemission"

Abstract: Chlorophyl molecules excited by light quanta can transform the
captured energy either chemically, or by means of photoreemission. Present-
ly herbicides of the phenyldialkylurea group are used widely to control
weeds and they specifically effect fluorescence and photophosphorescence.
Studying the mechanism of their action, the authors utilized a phosphores-
cencegraph, described earlier. It was determined that urea derivatives
affect both the characteristics and intensity of photoreemission of treated

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USSR

MOCHALKINA, K. I., et al, Khimiya v Sel'skom Khozyaystve, Vol 8, No 4 (78), Apr 70, pp 58-60

plant leaves, regardless whether the agent was sprayed over the leaves or introduced into the root system. This change in the intensity of the photoreemission indicated the time when a toxic agent entered the plant portion above the ground and by the same token gave data on the migration of the agents in soil.

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USSR   UDC 51:155.001.57:612.82

GOLOVAN', E. T.

"A Model of Associative Memory"

Translation: A model is suggested for the memory of the second signal system,
on the basis of which certain phenomena can be explained. Human memory is
represented as a network structure. The elements of this structure are nodes
and connections. In the psychological plan, a node is looked upon as an element
of stored information, capable of being used as a member of an association. On
the level of the first signal system, this element might be considered to be a
pattern of any modality. In the second signal system, the word is such an ele-
ment. As concerns physiological interpretation, the node might possibly be a
neuron set, i.e. a set of cells capable of being simultaneously in a state of
activity for a certain time interval under certain conditions.

Acc. Nr: AP0047167   Ref. Code: UR 0246

THE PARENTS OF CHILDREN WITH SLUGGISH FORMS
OF SCHIZOPHRENIA

I. I. Golovan

The author conducted clinico-genealogical studies of 25 families where schizophrenia in the probands had an onset either in puberty or in childhood and where the morbid process was of a sluggish, slowly progressive character. Except author interviewed personally all 25 pairs of parents of the 25 probans. The studied parents were divided into 3 groups: 1) with manifest forms of schizophrenia (7 parents — in 5 cases with shift-like schizophrenia, in 2 — more of a sluggish development); 2) with obliterated, ambulatory forms of the schizophrenic process where there were expressed changes of character (18 parents). In some cases of this second group there were acute psychotic episodes with affective, pseudoneurotic and psychopathlike symptomatology. In other cases (mainly in the fathers) — during a rather short period of time there were personality changes with a tendency to autism, emotional bluntness, psychopathization, a reduction of mental activity; 3) disorders with personality changes, which were qualified by the author as constitutional psychopathy (25 parents).

REEL/FRAME
19790661

USSR   UDC 612.766.1-087.2

GOLOVAN', V. I., Institute of Labor Hygiene and Occupational Diseases, Kiev

"A Tensomyographic Method for Determining Muscle Tension When Working With Various Control Organs"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 46-48

Abstract: A muscle tension sensing element providing oscillographic readout is described. The element and its plastic housing are strapped onto muscles of interest (deltoideus, brachioradialis, triceps brachialis, biceps brachialis) while the test subject performs assigned motor functions, in this case the manipulation of buttons and tumbler switches. It was found that the brachioradialis and triceps brachialis produce most of the power for button manipulation in approximately equal amounts (1.24 and 1.21 gm/cm^2 respectively), and that the biceps brachialis tenses significantly only in response to heightened control organ resistance. Total muscle tension was found to depend directly on control organ resistance. The ratio of maximum spike value to average value for all muscles was also directly dependent on the force applied. Height of control organs also affected the degree of participation of different muscles.
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USSR

UDC 621.78:539.219.3

NOVIKOV, B. A., KONNOVA, I. Yu., SHCHERBEDINSKIY, G. V., GOLOVANENKO, S. A., and MASLENKOV, S. B., Moscow

"Carbon Redistribution and Diffusion in Bimetals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 72, pp 83-87

Abstract: Using C^{14} and methods of autoradiography and radiometric layer analysis the redistribution of carbon in St. 3+0Kh13 bimetal was studied for two variants: without an intermediate layer and with an intermediate nickel layer. It was shown that carbon passes from the carbon steel into the stainless steel both in the process of manufacture and during all subsequent annealings. The presence of a nickel intermediate layer inhibits the passage of carbon from steel St. 3 to 0Kh13 and strongly varies the nature of carbon redistribution in the contact zone.

For the purpose of selecting the best bimetal cladding layers for long-time service at elevated temperatures the temperature relationships of diffusion coefficients were determined for carbon in 0Kh13 ferrite steel and EI943 (0Kh23N28M3D3T), EI628(0Kh23N28M2T), and EI432 (0Kh17N13M3T) austenitic steels. Comparison of the data on these steels showed that up to 700°C

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carbon penetrates EI432 steel to the greatest extent and EI943 steel to the least extent, while about 700°C carbon penetrates OKh13 steel the greatest and EI943 steel the least. 3 figures, 1 table, 2 bibliographic references.

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USSR

UDC 669.245'26:53°.4.015/019

ABRAMOV, I. V., GOLOVANENKO, S. A., MASLENKOV, S. B., and ABRAMOV, O. V., Moscow

"Dispersion Hardening of Nichrome Using Oxide Particles"

Abstract: Nichrome obtained by metallurgical melting methods and dispersion-hardened, using zirconium dioxide (ZrO_2) and aluminum oxide (Al_2O_3) particles, is studied. At identical levels of strength, the indices of ductility of the produced composition material are more than a unit higher than analog characteristics of the same material produced by the method of powder metallurgy. High-temperature stress-rupture strength of dispersion-hardened nichrome is considerably higher than that of common nickel base alloys and powder nickel hardened by the same oxides. The electronmicroscopic investigations of deformed nichrome, strengthened by finely dispersed particles, show high stability of ZrO_2 inclusions at temperature 1200°C.

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GOLOVANENKO, S. A., TOMILIN, I. A., and KONNOVA, I. YU., Moscow

"Activity of Carbon in Nickel-Base Alloys"

Abstract: The activity of carbon in Ni-Cu alloys containing up to 30 wt% Cu was investigated in the 1000-1200°C temperature interval. The results are discussed by reference to diagrams showing the carbon distribution in ternary Ni-alloy-Ni samples, the effect of Cu on the activity coefficient of C in Ni, the solubility of C in Ni-Cu alloys, and the temperature dependences of the activity coefficient of C in systems Ni+4% at. wt. of Cr, V, W, Ti and Nb in the 800-1200°C temperature interval. Cu is shown to increase the activity of C in Ni; Nb and Ti decrease it; V, Cr, and W increase it. These effects are discussed in comparison with the tendency of alloying elements to the formation of carbides and intermetallides. Four figures, three tables, seven formulas, five bibliographic references.

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USSR   UDC 669-419.4

KONNOVA, I. Yu., and GOLOVANENKO, S. A., [Central Scientific Research
Institute of Ferrous Metallurgy imeni I. P. Bardin]

"Nickel Interlayers for Corrosion-Resistant Bimetals"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1972,
pp 32-37

Abstract: The effect of different interlays (nickel, nickel-copper) on the
carburization kinetics of the cladding layer on different steels was studied.
Items made of these steels (Kh18N10 and OKh13) were made to perform at
425-550°C for up to 1000 hr. Experimental results without interlayers
showed that the depth of the carbon diffusion into the cladding layer in-
creases with temperature and exposure time. Nickel-copper interlayers
considerably inhibit the penetration of carbon into the cladding layer.
However, this depends on the concentration of Cu in the interlayer. Inter-
layers made of pure nickel or nickel + 30% Cu can not present a reliable
barrier for the C diffusion. The best results in this respect were obtained
with Ni-Cu interlayers containing 40-45% Cu. A further increase of the
concentration of Cu increases the quality of barriers against carbon
penetration, but the deformation temperature and oxidation of interlayers
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KONNOVA, I. Yu., and GOLOVANENKO, S. A., Metallovedeniye i Termicheskaya
Obrabotka Metallov, No 10, 1972, pp 32-37

deteriorate. Microstructural studies of the interlayers showed the presence
of film carbides on interlayers which are usually formed after long service
at high temperature. The morphology of these carbides depends on the com-
position of the interlayer, the steel, and the cladding layer.

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USSR

UDC 620.793

GOLOVANENKO, S. A. TsNIIChERMET /Central Scientific Research Institute of Ferrous Metallurgy/

"Selecting an Alloying System for Steels Used as the Base Layer of Corrosion-Resistant Bimetals"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, 1971, pp 47-52

Abstract: The author investigated the effect of the composition of the base layer of corrosion-resistant bimetals on carbon activity and the character of the carbon distribution in the bimetal transition zone. The base layer of the bimetals had the same content of carbon (0.18-0.20%), deoxidizing agents (0.20-0.25% Si, 0.5-0.6% Mn) and impurities (0.01-0.02% S, 0.002-0.004% P), but different alloying additions -- silicon, nickel, chromium, vanadium, molybdenum, tungsten, zirconium, manganese and copper. The steels used included 18Kh1, 18Kh3, 18F, 18F1, 18M1, 18V, 18Ts, 18S1, 18N1, 18N3, 18D, 18D1, St. 3, Kh18N10T and OKh13. The steels were smelted in an induction furnace

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GOLOVANENKO, S. A., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, 1971, pp 47-52

and poured into 5-kg ingots, which were forged into strips. Inserts were milled from the strips for rolling in a bimetallic pack. The inserts under-went diffusion saturation with isotope C-14 according to the method of P. L. GRUZIN. After diffusion annealing the inserts were placed in the bimetallic pack and hot-rolled into 4-5 mm sheet. The bimetallic sheets then underwent heat treatment.

Curves were plotted for the carbon distribution in the transition zone of the bimetals. The effect of the alloying elements in the steel of the base layer on carbon activity was estimated from variations in the gradient of carbon concentrations in the junction zone, with the concentration gradients for the bimetals St. 3+Kh18N10T and St. 3+OKh13 taken as the standards. Ex-perimental data indicate that the carbon activity of the studied carbon and low-alloy steels is higher than for OKh13 and KH18N10T stainless steels. Al-loyage of the steel of the base layer with zirconium, vanadium, molybdenum,

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GOLOVANENKO, S. A., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1,
1971, pp 47-52

tungsten, chromium, manganese and copper reduces carbon activity, i.e. they
are conducive to a decrease in the gradient of carbon concentrations in the
bimetal transition zone and a decrease in stainless steel carburization. Al-
loyage of the steel of the base layer with nickel and silicon raises carbon
activity, i.e. they increase the carbon concentration gradient and carburize
stainless steels. Silicon has twice as strong an effect as the same quantity
of nickel. Thus, given set compositions for steels (for carbon and alloying
elements) it is possible to forecast variations in the carbon concentration
of the junction zone of the layers after holding at high temperatures. Thus,
it is possible to select the system and degree of alloyage for steels of the
cladding layer given a certain base steel composition, or for steels of the
base layer given a certain cladding layer composition.

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USSR   UDC:621.771.8

GOLOVANENKO, S. A., MEANDROV, L. V., USTIMENKO, V. A., TKACHEVA, A. V., and
CHERVYAKOVA, V. V.

"Mechanical Properties of Steel + Nickel and Steel + Monel Bimetals"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works],
No 77, Metallurgiya Press, 1970, pp 164-170

Translation: The strength and plasticity characteristics of bimetals were deter-
mined during tensile testing in the 20-1200°C temperature interval and impact
testing between -60 and +20°C.
    In the hot-rolled state, steel + nickel and steel + monel bimetals have
mechanical properties as good as the properties of the base layer (steel), while
their impact toughness is significantly better.
    The dependence of adhesion strength of the layers on degree of deformation
and state of the contact surface is obtained. 4 figures; 5 biblio. refs.

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USSR

UDC 621.771.8

BYKOV, A. A., GOLOVANENKO, S. A., MEANDROV, L. V., and CHUB, V. M.
"The Selection of An Optimal Temperature Mode for Rolling of the Bimetals St3+OKh17T and St3+Kh25T"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 177-181

Translation: In order to select the optimal temperature interval for rolling and optimal compression mode under industrial conditions, diagrams of second-order recrystallization of OKh17T and Kh25T steels are constructed. This was performed using the method of rolling of wedge-shaped specimens. The temperature of the beginning of rolling of the chrome steels should not exceed 1,000°C. When bimetals St3+OKh17T and St3+Kh25T were rolled under industrial conditions, the temperature of beginning of rolling was increased to 1100°C. By using slight compression and properly selecting the rolling rate, recrystallization in the high-temperature area was suppressed, a low temperature of end of rolling was achieved, and good fine grain was achieved in the clad layer of the finished sheet. 1 figure; 6 biblio. refs.

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USSR

UDC 669.1.017:621.771.8:669.15'24'26'-194

GOLOVANENKO, S. A., MEANDROV, L. V., PERSHINA, N. F., and USTINENKO, V. A.

"Structure of Two-Layer Corrosion-Resistant Steel"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 172-177

Translation: The influence of technological factors on the structure and properties of large bimetallic sheets with a clad layer of chrome-nickel and chrome-nickel-molybdenum steels was studied.

It was established that the technological specifics related to the production of very thick two-layer corrosion-resistant sheets influence the changes in structure and properties.

Methods are recommended for reducing the required corrosion properties of the bimetal. 5 figures; 1 table.

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USSR

UDC 621.771.8

CHARUKHINA, K. Ye., GOLOVANENKO, S. A., MASTEROV, V. A., and KAZAKOV, N. F.

"Bimetallic Joints"

Bimetallicheskiye Soyedineniya [English Version Above], Moscow, Metallurgiya Press, 1970, 280 pp

Translation of Annotation: An analysis is made of the processes of formation of bonds, and the structure and properties of bimetallic joints produced by combined rolling, pressing, diffusion welding in a vacuum, and other methods of joining metals in the solid phase. The structural state of many bimetallic joints widely used in industry and promising for new branches of technology is analyzed.

The book is intended for engineering and technical workers in metallurgy, machine building, electronics, electrical engineering, and other branches of industry. It may also be useful to university students. 113 figures; 48 tables; 254 bibliographic references.

Table of Contents

USSR

CHARUKHINA, K. Ye., et al., Bimetallicheskiye Soyedineniya, Moscow, Metal-
lurgiya Press, 1970, 280 pp

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USSR

CHARUKHINA, K. Ye., et al., Bimetallicheskiye Soyedineniya, Moscow, Metal-
lurgiya Press, 1970, 280 pp

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USSR

CHARUKHINA, K. Ye., et al., Bimetallicheskiye Soyedineniya, Moscow, Metal-
lurgiya Press, 1970, 280 pp

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USSR

UDC 621.771.8:539.219.

ZEMSKIY, S. V., GOLOVANENKO, S. A., and CHUB, V. M.

"Diffusion Processes in Bimetals"

Translation: The significance of diffusion in processes of formation of the transition zone in bimetals is studied. Diffusion of carbon in bimetals consisting of carbon steel plus types Kh18T, Kh25T, and Kh18N10T steels is studied. A method is suggested for determining the diffusion parameters of carbon on the basis of curves of photometry of autoradiograms. The diffusion coefficients and activation energy of carbon in types Kh17T, Kh25T, Kh18N10T, and 3 steels, and of nickel in Kh17T and Kh25T steels are determined. The influence of intermediate nickel interlays and stresses on redistribution of carbon in these bimetals is studied. 6 figures; 1 table; 11 biblio. refs.

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GOLOVANEVA I.F.

Acc. Nr:
AP0041515

85764m Amido reaction on optical isomers of (en)(py)ClNO₂.
ClPtCl. Adrianova, O. N.; Golovaneva, I. F. (Inst. Obshch.
Neorg. Khim. im. Kurnakova, Moscow, USSR). Zh. Neorg.
Khim. 1970, 15(1), 279-80 (Russ). Amido reaction (a reversible
cleavage of proton from a coordinated amine by a base) of (−)₂₈₉-
(en)(py)ClNO₂.ClPtCl (I) were studied by ORD and CD spec-
tra. ORD of I and of the product of its deprotonation, (en-H)-
(py)ClNO₂ClPt (II), have the same (neg.) sign. The CD
spectra of II, and I reveal 4 bands in 600-220 mμ region. On
deprotonation, the 1st optically active band changed its sign
and showed a bathochromic shift. A comparison of the CD of
II with its absorption spectrum proved that, on deprotonation,
the compd. did not get a new band at 344 mμ but only experienced
a shift of the 331-mμ max. The remaining bands at 208, 229,
257, and 303 mμ were unchanged by the reaction. HMJR

LD

REEL/FRAME
19751383

USSR

GOLOVANIVSKIY, K. S.

"Resonator Diagnosis of Pulse Flow of Plasma in a Magnetic Field"

Translation: The paper describes a resonator method of studying pulse flows of plasma in a magnetic field. When resonator modes are used for which the electric vector is perpendicular to the direction of the static magnetic field, there is an anomaly in the behavior of the frequency shift $\Delta\omega/\omega$: in weak magnetic fields (electron cyclotron frequency ω_c less than resonator frequency ω) the frequency shift $\Delta\omega$ is positive. When the field is increased, the shift decreases and then at some field H_{0res} reverses sign. The anomaly in the behavior of $\Delta\omega/\omega$ was verified on a model of pulsed MHD flow in the region of fields $H \simeq H_{0res}$. The resonator was excited on the H_{101} mode. The resonance frequency $f = 1445.8$ MHz. The shape of the signal from the detector was observed as plasma bunches passed through the resonator when the latter was pretuned higher or lower than

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USSR

GOLOVANIVSKIY, K. S., Tr. Un-ta druzhby narodov imeni Patrisa Lumumby, 1972, 62, pp 34-47

the resonance frequency. The main experimental result is that in the region of the electron anomaly the signals on the detector as a fast plasma flow penetrates the resonator are reliably registered and easily interpreted. This means that the use of such modes keeps the value of $\Delta\omega/\omega$ low at higher concentrations also (with a corresponding increase in the magnetic field); i. e., the limits of the resonator method are extended to high plasma density regions.

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USSR

GOLOVANIVSKIY, K. S., LUSHCHIK, A. I.

UDC 533.9.07

"Formation of a Synthesized Cesium Plasma Beam, Part II"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 7, 1970, pp 1497-1500

Abstract: In this continuation of an article begun in the same issue of the journal named above, the authors study neutralization of the ion beam space charge in the synthesized plasma. The present paper is devoted to a description of their experiments testing a mechanism for effective neutralization of the ion beam current. According to this mechanism, the wave generated in the plasma by an electron beam may serve as an intermediate link in the transfer of energy from the primary electron beam to the electrons in the plasma, thus generating a secondary electron beam which will move with the velocity of the wave along the direction of the primary beam. The wave acquires energy from the braking of the beam, caused by the collisionless "friction" between particles of the beam and the plasma. The authors, in concluding, express their gratitude to R. A. Demirkhanov for his useful comments on the results.
1/1

USSR

GOLOVANIVSKIY, K. S., LUSHCHIK, A. I.

UDC 533.9.07

"Formation of a Synthesized Cesium Plasma Beam, Part I"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 7, 1970,
pp 1490-1496

Abstract: The purpose of this article is to describe experiments
for studying the mechanism of space-charge neutralization and
the beam current of accelerated cesium ions, as well as the
process for the formation of a synthesized quasi-neutral plasma.
This work is a consequence of earlier work done by these same
authors in which the measurement of the plasma parameters per-
mitted judging the degree of neutralization under different con-
ditions but the neutralization mechanism of the space charge
and especially of the current under steady-state conditions was
extremely difficult to explain. The experimental equipment is
described and a schematic of its arrangement given: it consists
of an ion source, which works on the principle of surface ioni-
zation of the cesium on heated tungsten and to which a positive
accelerating pulse is applied; an accelerating system consisting
of an accelerating and a delaying electrode, the latter given
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USSR

GOLOVANIVSKIY, K. S., et al, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 7, 1970, pp 1490-1496

a permanent zero potential and the former supplied with a small negative potential to serve as a barrier against electrons coming from the drift space to the ion source; a neutralizer consisting of a tungsten filament heated by a half-period of 50-Hz current such that the neutralizer is strictly equipotential during the half-period in which current does not flow through the filament; and finally, a target collector, which is covered with an aquadag layer to discourage the emission of secondary electrons. Both the neutralizer and target can be moved along the axis of the beam without in any way violating the vacuum. The article is profusely illustrated with oscillograms of ion current pulses under various conditions.

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USSR

GOLOVANOV, A. A., INYAKOV, V. G., SVIRIN, V. P.

"Pulse Generator"

Translation: A pulse generator is proposed which contains a DC charge source, an ion commutator using a three-electrode discharger, a source of ignition pulse voltage, a storage element and a load. In order to decrease the transient process time between partial and complete ionization of the discharger, a limiting inductance is connected to the cathode circuit of the discharger.

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Biophysics

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"Physiologically Active Compounds. Correlation Between the Physiological Activity Data of Compounds and Their Molecular Spectroscopy. I. Nuclear Magnetic Resonance Spectra and Physiological Activity of Some Cholinomimetic Compounds"

Abstract: The electron distribution (which was determined from NMR spectra) and biological activity of the following cholinomimetic (CM) compounds was correlated: acetylcholine chloride, acetylcholine bromide, acetylcholine iodide, acetylthiocholine bromide, acetylthiocholine iodide, propionylcholine iodide, propionylthiocholine iodide, butyrylcholine iodide, methacholine chloride, carbaminoylcholine chloride, succincholine iodide, suberylcholine iodide, arecoline bromine hydrate, and methylfurmethide iodide. The obtained results indicated that all compounds of type $R - CO - O - CH_2 - CH_2 - N(CH_3)_3$ and suberylcholine iodide have practically identical shifts of the group $- CH_2 - CH_2 - N(CH_3)_3$ and their electronic distribution should be identical. Difference in

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